

TWO NEW SPECIES OF LITHOPHANE FROM CALIFORNIA  
(NOCTUIDAE, CUCULLIINAE)

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**Lithophane subtilis** Franclemont, new species

A species closely related to the eastern *lemmeri* Barnes and Benjamin, but differing by its lighter color and somewhat larger size (Forewing length 20–22 mm: Forewing length 18–19 mm).

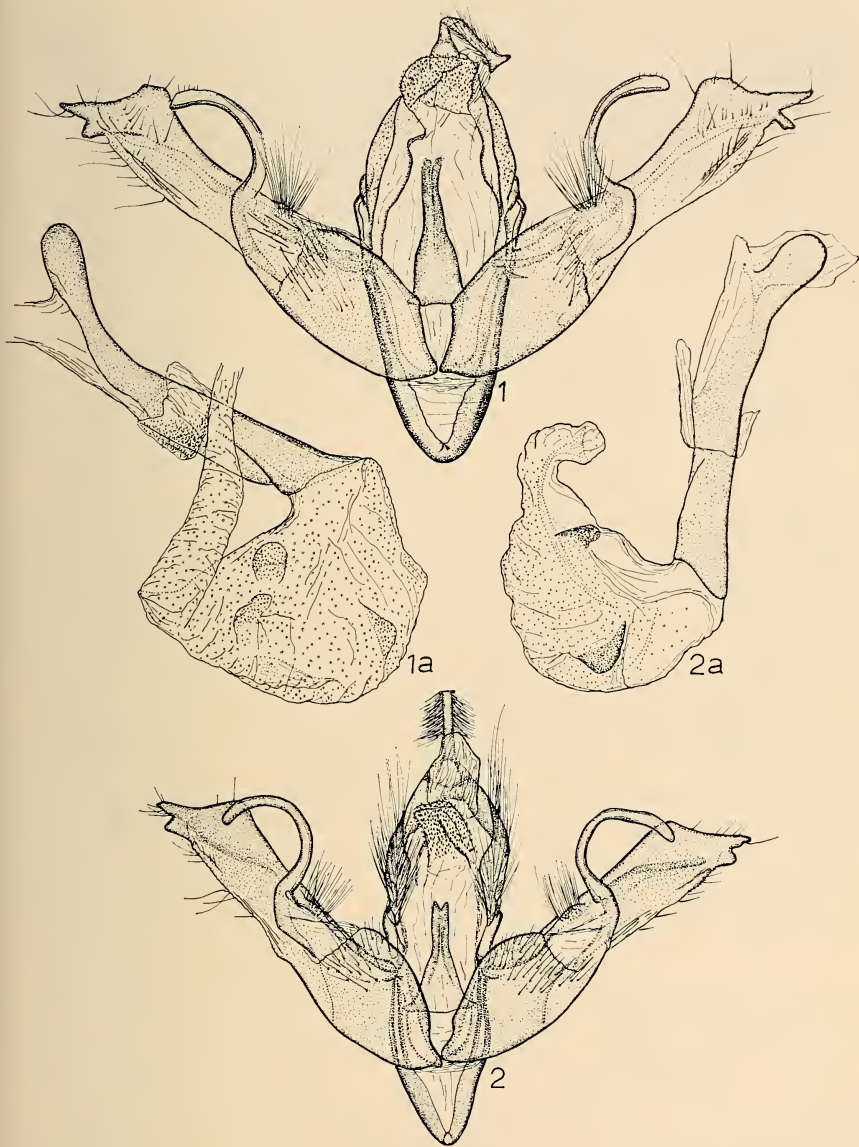
*Description:* Light gray with considerable admixture of whitish scales; markings vague or obsolescent. Head with frontal tufts well developed; a transverse black line across front, just below level of antennal insertions. Collar (patagia) with a narrow, transverse, black line near upper margin, white above the line, ochreous below; disc of thorax with a pale longitudinal line of whitish scales, bordered on each side by a broader area of blackish scales; anterior thoracic tuft blackish, with the pale longitudinal line running through the center; tegulae margined with black above wing bases, above the black a line of white scales, some spatulate, black scales scattered among the gray and white hair-like scales. Forewing with the transverse lines most evident as longitudinal black and white dashes; t. a. line traceable with a whitish line with accompanying black outer line, sharply angled outwardly as a jagged line to fold (1A), then inwardly to a point below origin on costa, then forming a sharp acute loop to inner margin; t. p. line traceable as a pale line, sharply angled outwardly from costa to  $R_4$ , then sharply toothed outwardly on the veins and inwardly in fold, then outwardly on 2A, and inwardly to inner margin; a short black dash connecting t. a. and t. p. lines; reniform erect, orbicular oblique, with pale annuli, joined below by a white line with some black scales above, and above the black some ochreous scales; a vague blackish shade angled inwardly from near apex to  $M_3$  and connecting with a narrow black line on Cu below the white line connecting the reniform and orbicular; a vague blackish shade in subterminal area below  $Cu_2$ ; terminal area with short black dashes in the interspaces and extending out onto the fringe. Hindwing fuscous gray with some blackish scales on veins; discal spot dark but faint; fringe pale whitish; terminal area with blackish spots in the interspaces extending onto fringe. Below almost uniform pale whitish gray on both fore and hindwings; the black dashes of terminal area of forewing and the black spots of terminal area of hindwing present. Mid and hind tibiae each with a narrow black longitudinal line on outside.

Male genitalia as figured; differing from *lemmeri* by the longer valvae with proportionately less expanded sacculi, shorter claspers, more expanded costal bulges on each near apex, and more distinct digiti; and by the heavier uncus, almost twice as wide as that of *lemmeri*.

Female genitalia as figured; somewhat larger than those of *lemmeri*.

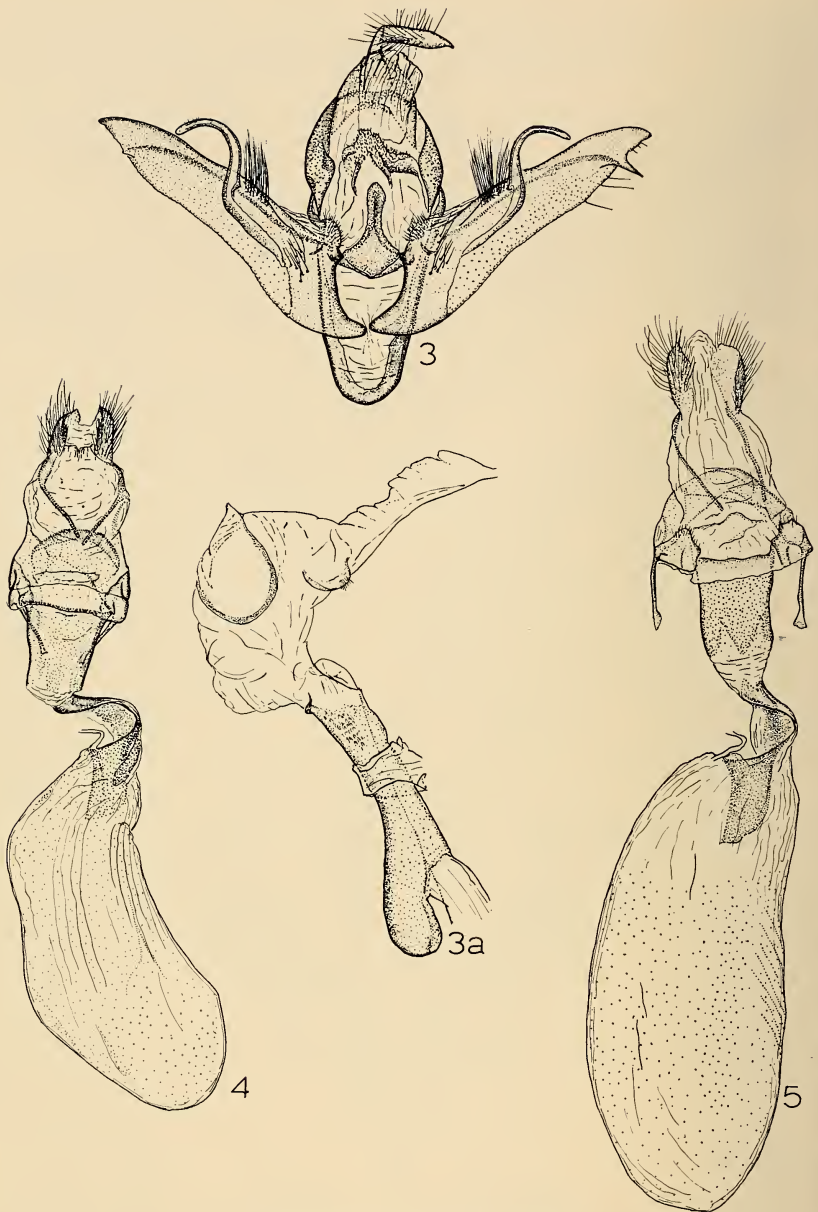
*Holotype Male:* California, Mint Canyon, Los Angeles County, 16 December 1952 (from Frank P. Sala), in Franclemont Collection to be deposited in U.S. National Museum. Genitalia slide JGF 3571.

*Paratypes:* 5 ♂♂ and 7 ♀♀, Pinyon Crest, Riverside County, Calif., January, February, and March of 1966 (R. H. Leuschner), in Leuschner Collection. 4 ♂♂ and 3 ♀♀, Mint Canyon, Los Angeles County, Calif., January and February of 1953 and 1954 (Chas. A. Hill) in the Los Angeles



## EXPLANATION OF FIGURES

1. *Lithophane subtilis* Franclemont; Type. Male genitalia, aedoeagus removed. Slide: JGF 3571. 1a. *L. subtilis* Franclemont; Type. Aedoeagus. Slide: JGF 3571. 2. *L. lemmeri* Barnes & Benjamin; Lakehurst, New Jersey. Male genitalia, aedoeagus removed. Slide: JGF 4806. 2a. *L. lemmeri*; Lakehurst, New Jersey. Aedoeagus. Slide: JGF 4806.



## EXPLANATION OF FIGURES

3. *Lithophane tephрина* Franclemont; Type. Male genitalia, aedeagus removed. Slide: JGF 4167. 3a. *L. tephрина*; Type. Aedeagus. Slide: JGF 4167. 4. *L. lemmeri* Barnes & Benjamin; Lakehurst, New Jersey. Female genitalia. Slide: JGF 3574. 5. *L. subtilis* Franclemont; Paratype, Mint Canyon, Los Angeles County, California. Female genitalia. Slide: JGF 3572.



## EXPLANATION OF FIGURES

6. *Lithophane subtilis* Franclemont; Paratype, female; Juniper Hills, Mojave Desert, Los Angeles County, California, January 16, 1964, 3500 feet; in Los Angeles County Museum Collection. 7. *L. tephрина* Franclemont; Paratype, female; Cobb Mt., Lake County, California; in W. R. Bauer and J. S. Buckett Collection at Davis, California.

County Museum Collection. 1 ♂ and 5 ♀♀, Mint Canyon, L. A. Co., Calif., December 1952 and January 1953 (from Frank P. Sala), in Franclemont Collection. 1 ♂ and 4 ♀♀, Juniper Hills, Mojave Desert, L. A. Co., California, 3500 ft., January and February of 1964 (C. Henne), 2 in Henne Collection, 3 in the Los Angeles County Museum Collection. 1 ♂, Juniper Hills, Mojave Desert, L. A. Co., Calif., 3500 ft., emerged 25 Oct. 1964 from eggs of a female taken 16 Jan. 1964. Food: *Juniperus californica* Carr.; (C. Henne), in Henne Collection. 3 ♂♂ and 1 ♀, Juniper Hills, 3500 ft., 2 miles S. Pearblossom, Los Angeles Co., Calif., February and March of 1966 (C. Henne), in the Los Angeles County Museum Collection. 2 ♀♀, Big Rock Creek, San Gabriel Mts., L. A. Co., Calif., February 1965 (C. Henne), in Henne Collection. 1 ♀, 2.5 miles SSW of Valyermo, San Gabriel Mts., L. A. Co., Calif. 4800 ft., February 1965 (C. Henne), in Henne Collection.

This species is one of a group the larvae of which feed upon trees and shrubs of the genus *Juniperus* and possibly the genus *Chamaecyparis*. At the Southwestern Research Station of the American Museum of Natural History in Cave Creek Canyon in the Chiricahua Mountains, Arizona, *Lithophane tarda* (Barnes and Benjamin) and *Lithophane longior* (Smith) have been reared on *Juniperus pachyphloea* Torr. from ova laid by confined females. The larvae of *tarda* have been beaten from the same species of juniper at Walnut Canyon near Flagstaff, Coconino County, Arizona. *Lithophane lemmeri* has been reared from a larva found in an area where *Juniperus virginiana* Linn. and *Chamaecyparis thyoides* (Linn.) Britt. *et al.* grow at Lakehurst, New Jersey. The one larva found

was full-fed, and it was assumed that the foodplant had been the *Chamaecyparis*, but it may well have been the *Juniperus*.

There is an undescribed species of this group from El Salto, Durango, Mexico. It was reared by W. C. McGuffin from a larva found on *Juniperus*. Unfortunately, the moth did not expand its wings properly and is in far too poor condition to be used for a description. The genitalia are similar to those of *itata* and *tarda*, but the digiti are of equal size on both valves; there are also other differences.

### **Lithophane tephрина** Franclemont, new species

A small gray species with the general appearance of *itata* Smith and *tarda* Barnes and Benjamin, but differing from both by the very pale hindwings and the slight expansion of the costal area of the forewing.

*Description:* Light, powdery gray with an admixture of black scales; the markings vague but discernible. Head with frontal tufts moderately developed. Collar (patagia) with a vague line of black scales on upper edge; anterior thoracic tuft conspicuous, blackish; tegulae not set-off. Forewing with basal line fine, black, angled outwardly on base of Cu; t. a. line somewhat diffuse black, crenulate, almost erect, slightly curved outwardly at middle of wing, with a vague, pale shade on inner side; a diffuse, slightly angled, blackish median shade; t. p. line, fine, black, sharply angled outwardly on veins and inwardly in interspaces, angled outwardly from costa to R<sub>5</sub>, then incurved to inner margin, a vague, pale shade on outer side; subterminal line fine, very irregular, black; terminal line a series of black spots and short lines at base of fringe; reniform and orbicular not evident, at most a few black scales may represent their annuli. Hindwing grayish white with a pink cast and with a fine dusting of grayish black scales; discal spot blackish and conspicuous. Below pale whitish gray with a pink cast; forewing somewhat darker than hindwing; discal spots dark and conspicuous on both wings.

Male genitalia as figured; similar in general structure to *itata* and *tarda*, most like the former, but differing by the lack of the widely expanded, sclerotized sacculus of the valve; the longer, acute digitus of the right valve; the more reduced, (obsolescent) digitus of the left valve; the much slighter claspers, less than one-half as wide as those of *itata*; and the heavier uncus with the apex acute, not expanded as in *itata* and *tarda*. Vesica with a cluster of short, fine cornuti.

*Holotype Male:* California, Middletown, Lake County, 18 December 1955 (W. R. Bauer and J. S. Buckett), in Franclemont Collection to be deposited in U.S. National Museum. Genitalia slide JGF 4167.

*Paratype:* Female; Cobb Mt., Lake Co., Calif.; 19 Feb. 1955 (W. R. Bauer and J. S. Buckett), in Bauer-Buckett Collection.

The drawings are by Miss Linda Yu-ling Chu.